

Opportunity Title: Directed Energy Bioeffects Postdoctoral Researcher
Opportunity Reference Code: AFRL-711HPW-2020-0012

Organization U.S. Department of Defense (DOD)

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How to Apply Components of the online application are as follows:

- Profile Information
- Educational and Employment History
- Essay Questions (goals, experiences, and skills relevant to the opportunity)
- Resume (PDF)
- Transcripts/Academic Records - For this opportunity, an unofficial transcript or copy of the student academic records printed by the applicant or by academic advisors from internal institution systems may be submitted. [Click here for detailed information about acceptable transcripts.](#)
- 1 Recommendation

Submitted documents must have all social security numbers, student identification numbers, and/or dates of birth removed (blanked out, blackened out, made illegible, etc.) prior to uploading into the application system.

If you have questions, send an email to airforce@orise.ora.gov. Please list the reference code of this opportunity in the subject line of the email.

All documents must be in English or include an official English translation.

Description The Air Force Research Lab (AFRL) 711th Human Performance Wing (711 HPW) is a unique combination of three units: the Airman Systems Directorate (RH), the US Air Force School of Aerospace Medicine (USAFSAM) and the Human Systems Integration Directorate (HP). The synergies of combining the ideas, resources and technologies of these units position the 711 HPW as a world leader in the study and advancement of human performance. For more information about the 711th HPW, please visit: <https://www.wpafb.af.mil/afrl/711hpw/>.

The Bioeffects Division of AFRL 711 HPW leads the mission to exploit and protect against the bioeffects of battlefield environmental stressors. The specific objectives of this division include facilitating directed energy weapons development and use; preventing mission degradation due to directed energy exposure; and enabling our forces to function safely, effectively, and efficiently on the directed energy battlefield.

Under the guidance of a mentor, the participant will study the biological response to optical and radio frequency directed energy sources, to include:

- Studying novel directed energy bioeffects
- Modeling, simulating, and analyzing directed energy engagements
- Supporting development of future directed energy systems
- War fighter safety and performance in the future battlefield.

The postdoctoral researcher will design and construct novel optical imaging systems that will be used to study the response of cell cultures to pulsed directed energy systems. The participant will gain experience working in cell culture, collecting and analyzing imaging data, and designing experiments to answer fundamental questions regarding the cellular response to direct energy stimulation.

Appointment Length



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This appointment is a twelve month research appointment, with the possibility to be renewed for additional research periods. Appointments may be extended depending on funding availability, project assignment, program rules, and availability of the participant.

Participant Benefits

Participants will receive a stipend to be determined by AFRL. Stipends are typically based on the participant's academic standing, discipline, experience, and research facility location. Other benefits may include the following:

- Health Insurance Supplement. *Participants are eligible to purchase health insurance through ORISE.*
- Relocation Allowance
- Training and Travel Allowance






Nature of Appointment

The participant will not enter into an employee/employer relationship with ORISE, ORAU, DOD, or any other office or agency. Instead, the participant will be affiliated with ORISE for the administration of the appointment through the ORISE appointment letter and Terms of Appointment.

Qualifications

Candidate should have completed or be pursuing a doctoral degree in Biomedical Engineering, or a related field, with an emphasis on optical imaging or applied biophysics. The ideal candidate will have experience with: optical system design, including Zemax OpticStudio; computer programming, including MATLAB, LABVIEW, and Python; microscopy, including fluorescence, quantitative phase, and Brillouin; and Cell culture.

Eligibility Requirements

- **Citizenship:** U.S. Citizen Only
- **Degree:** Doctoral Degree received within the last 60 months or currently pursuing.
- **Overall GPA:** 3.90
- **Discipline(s):**
 - **Chemistry and Materials Sciences** (1 )
 - **Computer, Information, and Data Sciences** (16 )
 - **Engineering** (27 )
 - **Environmental and Marine Sciences** (1 )
 - **Life Health and Medical Sciences** (45 )
- **Age:** Must be 18 years of age